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# Experimental IR Meets Multilinguality, Multimodality, and Interaction

8th International Conference  
of the CLEF Association, CLEF 2017  
Dublin, Ireland, September 11–14, 2017  
Proceedings

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# Preface

Since 2000, the Conference and Labs of the Evaluation Forum (CLEF) has played a leading role in stimulating research and innovation in the domain of multimodal and multilingual information access. Initially founded as the Cross-Language Evaluation Forum and running in conjunction with the European Conference on Digital Libraries (ECDL/TPDL), CLEF became a standalone event in 2010 combining a peer-reviewed conference with a multi-track evaluation forum. The combination of the scientific program and the track-based evaluations at the CLEF conference creates a unique platform to explore information access from different perspectives, in any modality and language.

The CLEF conference has a clear focus on experimental information retrieval (IR) as seen in evaluation forums (CLEF Labs, TREC, NTCIR, FIRE, MediaEval, RomIP, TAC) with special attention to the challenges of multimodality, multilinguality, and interactive search ranging from unstructured, to semi-structured and structured data. CLEF invites submissions on significant new insights demonstrated by the use of innovative IR evaluation tasks or in the analysis of IR test collections and evaluation measures, as well as on concrete proposals to push the boundaries of the Cranfield/TREC/CLEF paradigm.

CLEF 2017<sup>1</sup> was hosted by the ADAPT Centre<sup>2</sup>, Dublin City University and Trinity College Dublin during September 11–14, 2017. The conference format consisted of keynotes, contributed papers, lab sessions, and poster sessions, including reports from other benchmarking initiatives from around the world. This year’s conference was also co-located with MediaEval<sup>3</sup> and the program included joint sessions between both MediaEval and CLEF to allow for cross fertilization.

CLEF 2017 received 38 submissions, of which a total of 22 papers were accepted. Each submission was reviewed by Program Committee (PC) members, and the program chairs oversaw the reviewing and follow-up discussions. CLEF 2017 continued a novel track introduced at CLEF 2015, i.e., inviting CLEF lab organizers to nominate a “best of the labs” paper that was reviewed as a full paper submission to the CLEF 2017 conference according to the same review criteria and PC. In total, 15 long papers were received, of which seven were accepted; 17 short papers were received, of which nine were accepted; six Best of Labs track papers were received, all of which were accepted.

The conference integrated a series of workshops presenting the results of lab-based comparative evaluations. CLEF 2017 was the 8th year of the CLEF Conference and the 18th year of the CLEF initiative as a forum for IR Evaluation. The labs were selected after peer review based on their innovation potential and the quality of the resources created. The labs represented scientific challenges based on new data sets and

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<sup>1</sup> <http://clef2017.clef-initiative.eu/>.

<sup>2</sup> <http://adaptcentre.ie/>.

<sup>3</sup> <http://www.multimediaeval.org/>.

real-world problems in multimodal and multilingual information access. These data sets provide unique opportunities for scientists to explore collections, to develop solutions for these problems, to receive feedback on the performance of their solutions, and to discuss the issues with peers at the workshops.

In addition to these workshops, the ten benchmarking labs reported results of their year-long activities in overview talks and lab sessions. Overview papers describing each of these labs are provided in this volume. The full details for each lab are contained in a separate publication, the Working Notes, which are available online<sup>4</sup>.

The eight labs and two workshops running as part of CLEF 2017 were as follows:

**News Recommendation Evaluation Lab (NEWSREEL)**<sup>5</sup> provides a vehicle for the IR/recommender system communities to move from conventional offline evaluation to online evaluation. We address the following information access challenge: Whenever a visitor of an online news portal reads a news article on their side, the task is to recommend other news articles that the user might be interested in.

**LifeCLEF**<sup>6</sup> aims at boosting research on the identification of living organisms and on the production of biodiversity data in general. Through its biodiversity informatics related challenges, LifeCLEF aims to push the boundaries of the state of the art in several research directions at the frontier of multimedia information retrieval, machine learning, and knowledge engineering.

**Uncovering Plagiarism, Authorship, and Social Software Misuse (PAN)**<sup>7</sup> provides evaluation of uncovering plagiarism, authorship, and social software misuse. PAN offered three tasks at CLEF 2017 with new evaluation resources consisting of large-scale corpora, performance measures, and web services that allow for meaningful evaluations. The main goal is to provide for sustainable and reproducible evaluations, to get a clear view of the capabilities of state-of-the-art-algorithms. The tasks are: author identification; author profiling; and, author obfuscation.

**CLEFeHealth**<sup>8</sup> provides scenarios which aim to ease patients' and nurses' understanding and accessing of eHealth information. The goals of the lab are to develop processing methods and resources in a multilingual setting to enrich difficult-to-understand eHealth texts, and provide valuable documentation. The tasks are: multilingual information extraction; technologically assisted reviews in empirical medicine; and, patient-centered information retrieval.

**Cultural Microblog Contextualization (CMC) Workshop**<sup>9</sup> deals with how cultural context of a microblog affects its social impact at large. This involves microblog search, classification, filtering, language recognition, localization, entity extraction, linking open data and summarization. Regular Lab participants have access to the private massive multilingual microblog stream of The festival galleries project.

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<sup>4</sup> <http://ceur-ws.org/Vol-1866>.

<sup>5</sup> <http://clef-newsreel.org/>.

<sup>6</sup> <http://www.lifeclef.org/>.

<sup>7</sup> <http://pan.webis.de/>.

<sup>8</sup> <https://sites.google.com/site/clefehealth2017/>.

<sup>9</sup> <https://mc2.talne.eu/>.

**ImageCLEF**<sup>10</sup> organizes three main tasks with a global objective of benchmarking lifelogging retrieval and summarization, tuberculosis type prediction from CT images, and bio-medical image caption prediction; and a pilot task on remote sensing image analysis.

**Early risk prediction on the Internet (eRisk)**<sup>11</sup> explores issues of evaluation methodology, effectiveness metrics, and other processes related to early risk detection. Early detection technologies can be employed in different areas, particularly those related to health and safety. For instance, early alerts could be sent when a predator starts interacting with a child for sexual purposes, or when a potential offender starts publishing antisocial threats on a blog, forum or social network. Our main goal is to pioneer a new interdisciplinary research area that would be potentially applicable to a wide variety of situations and to many different personal profiles.

**Personalized Information Retrieval at CLEF (PIR-CLEF)**<sup>12</sup> provides a framework for evaluation of Personalized Information Retrieval (PIR). Current approaches to the evaluation of PIR are user-centered, i.e., they rely on experiments that involve real users in a supervised environment. PiR-CLEF aims to develop and demonstrate a methodology for evaluation PIR which enables repeatable experiments to enable the detailed exploration of personal models and their exploitation in IR.

**Dynamic Search for Complex Tasks**<sup>13</sup> Information Retrieval research has traditionally focused on serving the best results for a single query – so-called ad hoc retrieval. However, users typically search iteratively, refining and reformulating their queries during a session. A key challenge in the study of this interaction is the creation of suitable evaluation resources to assess the effectiveness of IR systems over sessions. The goal of the CLEF Dynamic Search lab is to propose and standardize an evaluation methodology that can lead to reusable resources and evaluation metrics able to assess retrieval performance over an entire session, keeping the “user” in the loop.

**Multimodal Spatial Role Labeling**<sup>14</sup> explores the extraction of spatial information from two information resources that is image and text. This is important for various applications such as semantic search, question answering, geographical information systems, and even in robotics for machine understanding of navigational instructions or instructions for grabbing and manipulating objects.

CLEF 2017 was accompanied by a social program encompassing some of Dublin’s most popular locations. The Welcome Reception took place at the Guinness Storehouse, Ireland’s most popular tourist attraction, including a introduction to the brewing of Guinness, an exhibition of the famous cartoon advertising campaigns, and the main reception in the Gravity Bar with panoramic views across the city. The conference dinner was held jointly with MediaEval in the Dining Hall at Trinity College Dublin. Participants were also able to join a Literary Pub Crawl exploring Dublin’s historic literary tradition and its social settings.

<sup>10</sup> <http://imageclef.org/2017>.

<sup>11</sup> <http://early.irlab.org/>.

<sup>12</sup> <http://www.ir.disco.unimib.it/pirclef2017/>.

<sup>13</sup> <https://ekanou.github.io/dynamicsearch/>.

<sup>14</sup> [http://www.cs.tulane.edu/~pkordjam/mSpRL\\_CLEF\\_lab.html](http://www.cs.tulane.edu/~pkordjam/mSpRL_CLEF_lab.html).

The success of CLEF 2017 would not have been possible without the huge effort of several people and organizations, including the CLEF Association<sup>15</sup> and the ADAPT Centre, Ireland, the Program Committee, the Lab Organizing Committee, Martin Braschler, Donna Harman, and Maarten de Rijke, the local Organizing Committee in Dublin, Conference Partners International, the reviewers, and the many students and volunteers who contributed.

July 2017

Gareth J.F. Jones  
Séamus Lawless  
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Lorraine Goeuriot  
Thomas Mandl  
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<sup>15</sup> <http://www.clef-initiative.eu/association>.



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